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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------------|
| 10/784,984 | 02/25/2004 | Craig Allan Dunk | 30889-2002 | 8963 |
| 63617 7590 08/15/2007 PERRY + CURRIER (FOR RIM) 1300 YONGE STREET SUITE 500 TORONTO, ON M4T-1X3 CANADA | | | EXAMINER DUONG, OANH L | |
| | | | ART UNIT 2155 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/784,984 | | DUNK, CRAIG ALLAN | |
| | Examiner | | Art Unit | |
| | Oanh Duong | | 2155 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/18/04 & 12/30/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-18 are presented for examination.

Claim Objections

2. Claim 1 is objected to because of the following informalities: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on a separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP 608.01(i)-(p).

3. Claim 11 recites the limitation "said at least one least known timeout criteria" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 6 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, the feature “during which said device sends keep alive signals to said second electronic device, and varying said time period sending keep-alive signals over said connection during said time period for each iteration until said time period causes said equipment to terminate said connection” does not have clear meaning.

Regarding claim 18, it is not clear that applicant intends to claim set of instructions (i.e., code/software) embedded in a computer readable storage medium or a method comprising steps of. The set of instructions cannot comprising the steps.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 2, 3, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung et al. ("Chung"), Us 6,761,636 B1.

Regarding claim 1, Chung teaches an electronic device (i.e., handheld device 16) including a network interface for participating in a network connection with a second device via a network connection carried over physical link that includes equipment (i.e., PC 214) for terminating said connection if said connection remains idle according a predefined time-out criteria (i.e., client/user will be purged from the system as a time out situation, col. 10 lines 54-55), said device operable to determine said predefined time-out criteria (*i.e., determine time-out situation, col. 10 lines 44-64*).

Regarding claim 2, Chung teaches the electronic device of claim 1 wherein said electronic device is further operable to send keep-alive signals according to said determined criteria in order to reduce dropped connections by said equipment and reducing overall traffic carried over said link (col. 10 lines 51-63).

Regarding claim 3, Chung teaches the device according to claim 2 wherein said connection is an HTTP web-page being requested by said first electronic device of said second electronic device (col. 9 line 49-62) and said keep-alive signal is a no-op signal (col. 10 lines 61-63).

Regarding claim 5, Chung teaches the electronic device of claim 1 wherein said criteria is a predefined time period (col. 10 lines 51-63).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, in view of Allred et al. ("Allred"), US 2002/0044771 A1.

Regarding claim 4, Chung teaches the electronic device of claim 1.

Chung does not explicitly teach said equipment is a NAT router.

Allred teaches system and method wherein persistent connections with clients are provided (abstract). Allred teaches said equipment is a NAT router (page 8 paragraph [0093]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Chung to include a NAT router as taught by Allred because it was conventionally employed in the art to maintain connection state information and timeout a connection after there has been no data activity for a period of time.

10. Claims 6, 7, 10-13, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, in view of Porcaro et al. ("Porcaro"), US 5,699,511.

Regarding claim 6, Chung teaches the electronic device of claim 5, wherein said device determines said predefined time period by establishing said connection with an initial default time period (i.e., a preset period of time, col. 10 lines 52-55);

sending a keep-alive signal to said second device once during said time period (col. 10 lines 59-63); and

maintaining a last-known good time period if said time period does cause said connection to be dropped (i.e., an interval smaller than the time out value in order to keep the session from purging from the system, col. 10 lines 59-65)

Chung does not explicitly teach increasing said time period if said time period does not cause said connection to be dropped then repeating said sending step; and reestablishing said connection and returning to said sending step; during which said device sends keep alive signals to said second electronic device, and varying said time period sending keep-alive signals over said connection during said time period for each iteration until said time period causes said equipment to terminate said connection.

Porcaro teaches system and method wherein the timeout value is dynamically modified (abstract). Porcaro teaches increasing said time period if said time period does not cause said connection to be dropped then repeating said sending step (col. 6 lines 8-22); and then reestablishing said connection and returning to said sending step (col. 6

lines 51-52); during which said device sends keep alive signals to said second electronic device, and varying said time period sending keep-alive signals over said connection during said time period for each iteration until said time period causes said equipment to terminate said connection (col. 6 lines 8-22).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Chung to adjust timeout period as taught by Porcaro. One would be motivated to do so to minimize the time needed to detect actual disconnection (Porcaro, col. 2 lines 38-40).

Regarding claim 7, Chung teaches the device according to claim 6 wherein said device is a client, said second device is a web-server and at least a portion of said link includes the Internet (Fig. 1 col. 6 lines 56-65).

Regarding claim 10, Chung teaches a method of maintaining a network connection comprising the steps of:

loading a timeout criteria into a first electronic device of an initial default value (i.e., preset period of time, col. 10 lines 44-64);

establishing a connection from said first electronic device to a second electronic device via a physical link that includes equipment for terminating said connection if said connection remains idle for a predefined timeout period (Fig. 1 col. 10 lines 44-64);

sending keep-alive signals from one said electronic device to the other said electronic device via said equipment according to said timeout criteria (col. 10 lines 51-66); and

thereafter performing said sending step using a known good timeout criteria (col. 10 lines 59-63).

Chung does not explicitly teach increasing said timeout criteria and repeating said sending step; and, repeating said increasing step until said connection is terminated by said equipment.

Porcaro teaches system and method wherein the timeout value is dynamically modified (abstract). Porcaro teaches increasing said timeout criteria and repeating said sending step (col. 6 lines 8-22); and, repeating said increasing step until said connection is terminated by said equipment (col. 5 lines 31-33 and col. 6 lines 8-22).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Chung to increase said timeout criteria and repeat said sending step as taught by Porcaro. One would be motivated to do so to minimize the time needed to detect actual disconnection (Porcaro, col. 2 lines 38-40).

Regarding claim 11, Chung teaches the method according to claim 10 wherein said at least one least known timeout criteria is a last-known good timeout criteria (col. 10 lines 59-63).

Regarding claim 12, Chung-Porcaro teaches the method according to claim 10 wherein said at least one least known timeout criteria is determined by iteratively decreasing said timeout criteria until said connection is no longer terminated (Porcaro, col. 6 lines 8-22).

Regarding claim 13, Chung teaches the method according to claim 10 wherein said connection is an HTTP web-page being requested by said first electronic device of said second electronic device (col. 9 line 49-62) and said keep-alive signal is a no-op signal (col. 10 lines 61-63).

Regarding claim 15, Chung teaches the method according to claim 10 wherein said first device is a client, said second device is a web-server and at least a portion of said link includes the Internet (Fig. 1).

Regarding claim 18, this claim comprises a computer-readable storage medium containing a set of instructions for an electronic device for performing a method claim 10, discussed above, same rationale of rejection is applicable

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, in view of Porcaro and Allred et al. ("Allred"), US 2002/0044771 A1.

Regarding claim 14, Chung teaches the electronic device of claim 1.

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The combination of Chung and Porcaro does not explicitly teach said equipment is a NAT router.

Allred teaches system and method wherein persistent connections with clients are provided (abstract). Allred teaches said equipment is a NAT router (page 8 paragraph [0093]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combination of teachings of Chung and Porcaro to include a NAT router as taught by Allred because it was conventionally employed in the art to maintain connection state information and timeout a connection after there has been no data activity for a period of time.

12. Claims 8-9, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, in view of Porcaro et al. ("Porcaro"), US 5,699,511, and Sata et al. ("Sata"), US 2004/0205189 A1.

Regarding claim 8, Chung teaches the device according to claim 7.

The combination of teachings of Chung and Porcaro does not explicitly teach said client is battery operated and said time periods are increased more quickly as said battery life is depleted to thereby reduce battery consumption while determining said predefined time period.

Sata teaches system wherein a link connection is configured to establish wireless link with a portable information terminal (abstract). Sata teaches said client is battery

operated and said time periods are increased more quickly as said battery life is depleted to thereby reduce battery consumption while determining said predefined time period (page 6 paragraph [0091]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combination of teachings of Chung and Porcaro to include said client is battery operated and said time periods are increased more quickly as said battery life is depleted to thereby reduce battery consumption while determining said predefined time period as taught by Sata. One would be motivated to do so to enable time interval to be controlled according to the remaining electronic capacity in the battery (Sata, page 5 paragraph [0085]).

Regarding claim 9, Chung teaches the device according to claim 8 wherein said client is a wireless device and at least a portion of said link includes a wireless connection from said wireless device to the Internet (Fig. 1 col. 6 lines 56-65).

Regarding claim 16, Chung teaches the method according to claim 10.

The combination of teachings of Chung and Porcaro does not teach said client is battery operated and said increasing step is based on larger intervals when said battery life is approaching depletion.

Sata teaches system wherein a link connection is configured to establish wireless link with a portable information terminal (abstract). Sata teaches said client is battery

operated and said increasing step is based on larger intervals when said battery life is approaching depletion (page 6 paragraph [0091]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combination of teachings of Chung and Porcaro to said client is battery operated and said increasing step is based on larger intervals when said battery life is approaching depletion as taught by Sata. One would be motivated to do so to enable time interval to be controlled according to the remaining electronic capacity in the battery (Sata, page 5 paragraph [0085]).

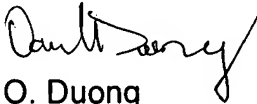
Regarding claim 17, Chung teaches the method according to claim 16 wherein said client is a wireless device and at least a portion of said link includes a wireless connection from said wireless device to the Internet (Fig. 1).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oanh Duong whose telephone number is (571) 272-3983. The examiner can normally be reached on Monday- Friday, 9:30PM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


O. Duong
Primary Examiner
August 14, 2007